

Personality Disorder in Primary Care: Factors Associated with Therapist Views of Process and Outcome

Steven Jones

University of Manchester, UK

Gerrard Burrell-Hodgson, Graham Tate and Barry Fowler

Pennine Care Trust, UK

Abstract. Assessment and treatment of personality disorder (PD) is a key issue in UK mental health service provision (NIMH report, 2003), but there is limited information on individuals with personality disorder presenting to primary care mental health services. This study investigates the characteristics of PD in individuals receiving cognitive behaviour therapy (CBT) following GP referral and its relationship with therapist ratings of treatment process and outcome. One hundred and forty-eight participants completed the Millon Multiaxial Clinical Inventory (MCMI-III; Millon, Davis and Millon, 1997). Therapists completed a measure of therapy process and outcome (TPOQ) on 100 participants. Key therapy and process questions were answered for 60 participants who attended a minimum of five therapy sessions. MCMI-III indicated a rate of PD of 56.4%. Factor analysis of PD scales identified two factors: inward looking/emotionally distanced, and aggressive/acting out. For clinical syndromes (CLS), the factors were general psychopathology and substance abuse. TPOQ had two factors: therapeutic alliance and complexity in therapy. Regression analyses indicated that only those PDs contributing to the inward looking/emotionally distanced scale score were associated with therapeutic alliance problems. Conversely, complexity in therapy was only predicted by general psychopathology and not by personality disorder. This study identified high rates of personality disorder in primary care referrals to a clinical psychology service. It also indicated that relationships between the presence of personality disorder and therapist ratings of treatment difficulties were only associated with certain types of personality disorder. These findings are discussed in relation to service and therapy planning in mental health.

Keywords: Personality disorder, primary care, clinical psychology, therapy outcome.

Introduction

The National Institute for Mental Health in England document, *Personality Disorder: no longer a diagnosis of exclusion* (2003), identifies that people with personality disorder (PD) make heavy, often escalating, demands that local services are often ill equipped to deal with.

Reprint requests to Steven H. Jones, University of Manchester, School of Psychology Sciences, Division of Clinical Psychology, Second Floor, Zochonis Building, Brunswick Street, Manchester M13 9PL, UK. E-mail: steven.jones@manchester.ac.uk

It aims to address the issues of access to appropriate clinical care and management for PD and the need to establish education and training to provide effective assessment and management. Although much research and service provision for PD is in secondary and tertiary care, PD is common in primary mental health and medical services. Weissman estimated 10–13% of a community sample met criteria for PD (Weissman, 1993). In primary health care, Moran found 24% of patients met criteria for PD according to informant interviews (Moran, Jenkins, Tylee, Blizard and Mann, 2000). Moreover, Howey and Ormrod reported 50% of primary care counselling patients met PD criteria on a self-report measure (Howey and Ormrod, 2002), whilst a report from the UK Department of Health for 2000–2001 noted 76,300 referrals to Clinical Psychology Departments in England (DoH, 2001). These figures indicate that the vast majority of people with PD will not be seen by specialist PD services.

One way to obtain information concerning patterns of PD in such services is through self-report measures, which are typically used as screening tools rather than as formal psychiatric diagnostic instruments. Self-report measures are more practical in clinical practice than structured clinical interviews, such as the Structured Clinical Interview for DSM-IV Personality Disorders, (SCID-II: First, Spitzer, Gibbon and Williams, 1997). The Millon Clinical Multiaxial Inventory (MCMI-III: Millon et al., 1997) is a self-report measure that assesses personality disorder (PD) and clinical syndromes (CLS) and is widely used in both clinical and forensic settings (Borum and Grisso, 1995; Watkins, Campbell, Neidberding and Hallmark, 1995). Comparisons of MCMI with clinician diagnoses indicate elevated rates of PD in the former (Repko and Cooper, 1985; Piersma, 1987; Wetzler and Dubro, 1990). However, comparison of MCMI with structured clinical interview indicates higher rates of agreement (Wetzler, 1990). Dubro and colleagues (Dubro et al., 1988) reported moderate sensitivity and specificity for MCMI compared to the Structured Interview for DSM-III PD (SIDP). Torgersen compared SIDP with MCMI, finding significant agreement for 5/8 PD scales (Torgersen and Alnaes, 1990). Piersma suggested the MCMI falls between structured clinical interviews and unstructured interviews in diagnostic reliability (Piersma, 1993). MCMI may therefore have merit as a screening measure to identify patterns of PD within particular samples.

Since MCMI-III generates 14 different possible PD categories, factor analysis provides a data reduction strategy for the comparison of PD with other variables. Studies using the MCMI-III indicate that PD is multi-factorial (Retzlaff, Lorr, Hyer and Ofman, 1991; Strack, Lorr, Campbell and Lamin, 1992; Craig and Bivens, 1998). A number of studies have in particular investigated the factor structures of the PD and CLS scales separately, reporting different numbers of factors for MCMI-I and II (Retzlaff et al., 1991; Strack et al., 1992). No studies have investigated the factor structure of these MCMI-III scales in a UK group of patients referred by GP for cognitive therapy treatment (CBT).

A further issue is the clinical importance of PD in therapy outcomes. Some efficacy studies of psychological and psychiatric treatment indicate that the presence of PD in general is associated with poorer treatment outcomes compared to participants who only have a CLS (Fals-Stewart and Lucente, 1993; Chambless, Tran and Glass, 1997; de Haan et al., 1997; DeBattista and Mueller, 2001; Merrill, Tolbert and Wade, 2003). However, the reasons for these differences have not yet been clearly established (Sato, Sakado, Sato and Morikawa, 1994; Van Velzen and Emmelkamp, 1996; Viinamaki et al., 2002). These differential outcomes have been explained as either a failure to respond therapeutically or an artefact of the more severe clinical state of individuals with co-morbid PD. Arntz and colleagues argue such individuals show equivalent response to therapy as those with CLSs alone (Dressen, Arntz, Luttel and

Sallaerts, 1994; Dreesen, Hoekstra and Arntz, 1997), but remain more disabled after therapy due to the severity of their initial CLS (van Velzen, Emmelkamp and Scholing, 1997). Dreesen reported, for anxiety disorders, that clinician ratings of therapy process were more strongly related to therapist than independent evaluations of PD (Dreesen and Arntz, 1999).

Many of these studies have only looked at a limited range of PDs. It could be argued that such studies fail to address the central question of whether it is the presence of PD per se, or specific PD categories that are associated with particular outcomes. This study aims to investigate PD in a sample more representative of routine clinical practice; namely, primary care mental health. In particular, initial data on the factor structure of the MCMI-III, specifically for PD and CLS scales, are presented. This study also aims to assess whether the presence of PD per se, or specific PD categories, are associated with therapy outcomes in CBT patients. This will be achieved by investigating associations between PD (assessed by MCMI-III) and treatment difficulties (indicated by a brief clinician report measure practical for everyday clinical use which was developed for this study).

Method

Participants and procedure

Participants were 148 (60 male: 88 female) GP referrals of mean age 39.3 years (SD 12.5) to a UK NHS clinical psychology service for CBT. Most participants were experiencing anxiety or depression (73.2%); the remainder had anger, bereavement or adjustment problems. One participant had a referral explicitly indicating the presence of a PD. All were referred over a 6-month period. Participants completed MCMI-III at initial assessment and clinicians completed the Therapy Process and Outcome Questionnaire (TPOQ), following completion of therapy. Clinicians completed TPOQ on the basis of case-note information, blind to MCMI-III data that was kept and scored independently. All clinicians were British Association of Behavioural and Cognitive Psychotherapy accredited CBT therapists. One participant did not complete MCM-III (due to inebriation and anger problems) and did not attend subsequently. All other attenders completed the MCMI-III. TPOQs were administered to 100 participants (TPOQ was unavailable for use with the first 48 participants) once the case was closed. Key therapy and process questions were answered for those who attended for a course of treatment ($N = 60$). Initial indications from this relatively small sample are that internal reliability is high ($\alpha = 0.88$) and test-retest reliability, over a period of 8–12 weeks, is moderate ($\rho = 0.46$, $p < .02$).

Test instruments

MCMI-III is a 175-item true-false self-report questionnaire which assesses 14 PD and 10 CLS categories (see Table 1). This measure has been identified as being internally consistent and reliable (Millon et al., 1997). TPOQ (Appendix 1) was developed as a practical clinician rated tool for use with primary care clients. We are not aware of any other clinician rated measure specifically developed for this purpose. The TPOQ examines whether individuals had attended for a course of treatment (at least five sessions), how many sessions were attended, and whether on the basis of clinical interview the clinician thought that the person had a PD, and if so of what type (following the categories used in the MCMI-III questionnaire). If the

Table 1. List of scales contained within Millon's MCMI-III

<i>Personality disorders</i>
1. Schizoid
2. Avoidant
3. Depressive
4. Dependent
5. Histrionic
6. Narcissistic
7. Antisocial
8. Sadistic
9. Compulsive
10. Negativistic
11. Masochistic
12. Schizotypal
13. Borderline
14. Paranoid
 <i>Clinical syndromes</i>
1. Anxiety
2. Somatoform
3. Bipolar
4. Dysthymia
5. Alcohol dependence
6. Drug dependence
7. Post-traumatic stress disorder
8. Thought disorder
9. Major depression
10. Delusional disorder

client had finished therapy or attended for at least five sessions then the additional questions detailed below were also completed. Seven key items were rated by the clinician each on a 5-point scale. Higher score indicates better outcome, alliance, engagement or psychological mindedness for items 1–4; higher scores for items 5–7 indicates fewer problems or revisions required. TPOQ items: 1) Therapy outcome; 2) Working alliance with patient; 3) Motivation to engage; 4) Psychological mindedness; 5) Need to revise formulation during therapy; 6) Need to revise treatment plan during therapy; 7) Problems in therapy.

Items were defined on the basis of consensus agreement between six BABCP accredited CBT therapists on key issues in process and outcome for CBT, reflecting key tasks in CBT (Blagys and Hilsenroth, 2002; TARRIER and Calam, 2002).

Results

No invalid Millon questionnaires were returned; 56.4% of participants met MCMI-III criteria for at least one PD and 30.9% for two or more. Depressive (30.9%), Dependent (23.5%) and Avoidant (19.5%) were the most common diagnoses obtained. MCMI-III indicated that 62.4% of the sample met criteria for at least one CLS and 39.6% for two or more. Anxiety (43.0%), Major Depression (26.8%) and Dysthymia (18.1%) were the most common diagnoses.

Table 2A. Separate personality disorder (PD) rotated factor loadings for MCMI-III

	Factor 1	Factor 2
Schizoid (1)	0.71	0.23
Avoidant (2A)	0.88	0.00
Depressive (2B)	0.71	0.15
Dependent (3)	0.63	0.26
Histrionic (4)	-0.83	0.00
Narcissistic (5)	-0.79	0.19
Antisocial (6A)	0.00	0.85
Aggressive/sadistic (6B)	0.00	0.84
Compulsive (7)	0.00	-0.69
Passive-aggressive (8A)	0.41	0.77
Self-defeating (8B)	0.73	0.36
Schizotypal (S)	0.60	0.49
Borderline (C)	0.45	0.76
Paranoid (P)	0.49	0.52
Variance %	36.0	27.8

Factor analysis of MCMI-III

Principle component analyses were undertaken separately for PD and CLS, to identify factor structures and assess how factors related to therapists' TPOQ ratings. Scree plots indicated the factors to be entered into varimax rotation; eigen values and factor loadings are reported. In all cases data met the Kaiser-Meyer-Olkin measure of sampling adequacy (>0.85) and Bartlett's test of sphericity ($p < .01$). Loadings >0.50 are discussed to allow clear interpretation of factors with only modest overlapping variance (Tabachnik and Fidell, 2001).

Factor analysis of PD scale alone. Two factors were identified for the MCMI-III PD scale (see Table 2A). Factor 1 (inward looking/emotionally distanced; eigen value 5.00, PVA 35.7) has high positive loadings for Avoidant, Depressive, Schizoid, Self-defeating and Schizotypal PD. Strong negative loadings were obtained for Narcissistic and Histrionic PD. Factor 2 (aggressive/acting; eigen value 3.89, PVA 27.8) has a high positive loading for Antisocial, Aggressive, Passive-aggressive, and Borderline PD and a strong negative loading for Compulsive PD.

Factor analysis of CLS scale alone. For CLS there were also two factors identified (see Table 2B). Factor 1 (general psychopathology; eigen value 4.42, PVA 44.2) contains high loadings for Anxiety, Somatoform, Dysthymic, PTSD, Major Depression and Thought disorder. Factor 2 (substance abuse; eigen value 2.29, PVA 22.9) has loadings for Alcohol and Drug Dependency and a smaller loading for Bipolar.

Relationship between MCMI and TPOQ

Factor analysis of TPOQ. Factor analysis was also undertaken as a data reduction strategy on the TPOQ. Factor loadings are reported after varimax rotation, in Table 3A. Data met the Kaiser-Meyer-Olkin measure of sampling adequacy (>0.69) and Bartlett's test of sphericity ($p < .01$). Factor 1 (therapeutic alliance; eigen value 3.9, PVA 55.4) has high positive factor loadings for outcome, bond, engagement and insight. Factor 2 (low complexity in therapy;

Table 2B. Separate clinical syndrome (CLS) rotated factor loadings for MCMI-III

	Factor 1	Factor 2
Anxiety (A)	0.75	0.12
Somatoform (H)	0.78	0.00
Bipolar: Manic (N)	0.50	0.64
Dysthymic	0.84	0.30
Alcohol dependence	0.00	0.87
Drug dependence	0.00	0.86
Post-traumatic stress	0.78	0.24
Thought disorder	0.84	0.23
Major depression	0.87	0.12
Delusional disorder	0.46	0.39
% Variance	44.2	22.9

Significant factor loadings are in bold.

Table 3A. Rotated factor loadings for therapy process and outcome questionnaire

	Factor 1	Factor 2
Outcome	0.66	0.46
Bond	0.91	0.00
Engagement	0.93	0.00
Insight	0.83	0.19
Modifications	0.00	0.92
Revision	0.00	0.94
Problems	0.48	0.69
% Variance	55.4	23.5

Significant factor loadings are in bold.

eigen value 1.7, PVA 23.5) has high positive factor loadings for modifications, revisions and problems in therapy.

Relationships between MCMI-III and TPOQ scale scores

A correlation matrix (Table 3B) was drawn up to illustrate relationships between MCMI-III and TPOQ scale scores generated by combining scores from variables contributing to the respective factors identified above. This indicated significant negative relationships between both TPOQ scale scores and the Inward looking/emotionally distanced PD scale score. A similar pattern was observed between both TPOQ scale scores and CLS scale score 1 (General psychopathology).

There are also significant correlations between MCMI-III scale scores. All multiple regressions were therefore subjected to multicollinearity diagnostics. Mutlicollinearity is indicated by a standardized conditioning index >30 and at least two variance proportions for an individual variable >0.5 (Tabachnik and Fidell, 2001). In addition, although only bivariate correlations >0.9 cause statistical problems with regression, there may be problems with inflation of error terms and weakened analysis at bivariate correlation above 0.7. Only

Table 3B. Correlations between MCMI-III and TPOQ factor scores, including histrionic, narcissistic and compulsive personality disorder

		PD Factor 1	PD Factor 2	CLS Factor 1	CLS Factor 2	TPOQ Factor 1	TPOQ Factor 2
Inward looking/emotionally distanced (PD Factor 1)	r_{sig}		0.62 0.01	0.81 0.01	0.45 0.00	-.29 .03	-.33 .01
Aggressive/acting out (PD Factor 2)	r_{sig}			0.55 0.01	0.75 0.00	-.06 .64	-.23 .09
General psychopathology (CLS Factor 1)	r_{sig}				0.43 0.00	-.27 .04	-.34 .01
Substance abuse (CLS Factor 2)	r_{sig}					-.22 .10	-.12 .36
Therapeutic alliance (TPOQ Factor 1)	r_{sig}						0.45 0.01

PD = Personality disorder; CLS = Clinical syndrome, TPOQ = Therapy process and Outcome questionnaire, TPOQ Factor 2 = Low complexity in therapy

Table 4. MCMI-III predictors of TPOQ factor score

	β	T	Significance
TPOQ Factor 1 predictor			
PD F1	-.29	-2.30	<.03
Composite 1	-.30	-2.37	<.02
TPOQ Factor 2 predictor			
CLS F1	-.34	-2.67	<.01
Composite 1	-.36	-2.91	<.01

PD = Personality disorder; CLS = Clinical syndrome, PD F1 = Inward looking/emotionally distanced, CLS F1 = General psychopathology, Composite 1 = PD F1 and CLS F1 combined

MCMI-III scale scores with significant bivariate correlations with respective TPOQ scores were entered into the regression analyses.

As none of the correlations between the MCMI-III scale scores were >0.9, the initial regression employed was statistical regression with backward deletion in which MCMI-III scale scores are entered and then are deleted only if they do not contribute to the regression significantly. Table 4 indicates the standardized regression coefficients (β), t values and significance levels for each significant independent variable. For TPOQ 1 both inward looking emotionally distanced PD and the general psychopathology CLS scale score were entered. R for the regression containing the two scale scores was not significant ($p > .07$). When general psychopathology was deleted, R for the regression was significantly different from zero ($F = 5.26$ (1, 56), $p < .03$). Therefore only the inward looking/emotionally distanced PD scale score was a significant predictor ($p < .03$), accounting for 8.7% of variability in therapeutic alliance scores. Neither regression equation met criteria for multicollinearity.

For TPOQ scale score 2 the same variables were again entered. The initial regression model was significant ($F = 4.0$ (2, 55), $p < .03$) but neither inward looking emotionally distanced PD or the general psychopathology CLS scale score were significant individual predictors.

The second model following backward deletion of inward looking emotionally distanced PD yielded R significantly above zero ($F = 7.21, (1, 56), p < .01$). The general psychopathology CLS scale score was significantly predictive ($p < .01$), accounting for 11.4 % of the variance in therapeutic complexity scores. In both cases, conditions for multicollinearity were not met.

Since there may be error inflation when correlations between variables of 0.7 or greater are present, two composite variables were then constructed combining emotionally distanced PD and general psychopathology (Composite 1; $r = 0.81$) and aggressive/acting out PD and substance abuse (Composite 2: $r = 0.75$). For both TPOQ scale scores only composite 1 had a significant bivariate correlation: TPOQ 1 ($r = 0.30, p < .02$), TPOQ 2 ($r = 0.36, p < .01$). Bivariate correlations did not differ significantly from the correlations observed between inward looking/emotionally distanced PD scale score and TPOQ 1 and general psychopathology CLS scale score and TPOQ 2 respectively ($p > .1$).

Table 4 indicates the standardized regression coefficients (B), t values and significance levels for Composite 1 with respect to TPOQ 1 & 2. For TPOQ scale score 1 the regression equation containing Composite 1 was significantly different from zero ($F = 5.60, (1, 56), p < .02$) with Composite 1 a significant individual predictor ($p < .02$) accounting for 9.1% of the variance in therapeutic alliance scores. For TPOQ scale score 2 the regression equation containing Composite 1 was significantly different from zero ($F = 5.60, (1, 56), p < .02$) with Composite 1 a significant individual predictor ($p < .02$) accounting for 11.6% of the variance in therapeutic complexity scores.

Demographic and scale score comparisons between TPOQ groups

Within this study there are essentially three groups with respect to TPOQ. There are those for whom there is no TPOQ data, those for whom there is no outcome TPOQ data (because they did not complete therapy), and those for whom there is complete TPOQ outcome data. In terms of the generalizability of the regression results reported above it was important to assess whether these groups differ in terms of demographic characteristics or scale scores. The first comparison made was between individuals for whom there was some or full TPOQ information and those for whom there was none. There were no significant age or gender differences and no differences in PD or CLS scale scores. A second set of comparisons was made between those for whom there was partial and those for whom there was full TPOQ information. This again revealed no age or gender differences. There were also no differences on emotionally distanced PD or general psychopathology CLS scale scores. There was a significant difference for substance abuse CLS scale score ($t = 2.17, p < .05$) and for aggressive/acting out PD ($t = 2.38, p < .05$) with higher scores for partial completers in both cases. Neither of these scales was significantly associated with outcome in the TPOQ analyses.

Discussion

There have been few studies to date that have investigated PD in primary care medical and mental health participants. This study focused on a sample of the latter group referred for psychological treatment, confirming previous reports of the high frequency of PD presentations to non-specialist services (Howey and Ormrod, 2002). Rates of PD were also similar to those of 30–60% comorbidity in larger US samples (Brown and Barlow, 1992; Shea, Widiger and Klein, 1992). These high rates underscore the importance of understanding more about PD

in these groups, whose presentation and outcome might be very different to those individuals presenting to specialist services.

Identification of PD is only significant for clinicians if it indicates something of importance about therapy. This study therefore examined the relationship between PD and CLS and a measure of therapy process and outcome. Separate factor analyses were conducted for the two Millon scales. These led to two factor solutions in each case. For PD the factors were inward looking/emotionally distanced and aggressive/acting out. For CLS the factors were general psychopathology and substance abuse. Interestingly, Safran and Muran have argued that there are two types of rupture in therapeutic alliance (withdrawal and confrontation) that appear to map onto the two PD factors identified in the current study (Safran and Muran, 2000).

The TPOQ itself was found to have two factors, one measuring therapeutic alliance and the second measuring complexity in therapy. Regression analysis indicated that only those PDs (as identified by MCMI) that loaded on inward looking/emotionally distanced scale score were associated with therapeutic alliance problems. These were not predicted by other PDs or by CLSs. Importantly, complexity in therapy was only predicted by general psychopathology, but not by either of the PD scale score scores. Previous research has shown that therapy outcomes for a number of axis 1 disorders are not influenced by co-morbid PD (Dreessen and Arntz, 1998; Kuyken, Kurzer, DeRubeis, Beck and Brown, 2001; Mulder, 2002). The present findings with respect to low complexity appear to be consistent with this, although it is reasonable to assume that therapeutic outcomes will be dependent on both therapeutic alliance and low complexity, rather than either in isolation.

These findings suggest that different aspects of the therapy process are influenced by different clinical features of the client. It also suggests that PD screening might have merit in helping the CBT clinician to establish realistic targets for therapy. However, it should be noted that interpretation of the regression analyses needs to be cautious in light of the correlations between PD and CLS scores. A composite variable combining inward looking PD and general psychopathology CLS was also associated with both TPOQ scale scores, although in neither case was the bivariate relationship significantly higher than that reported for the individual scale scores discussed above.

This pattern of results indicates the importance of not assuming that PD is a unitary construct. Different aspects of PD were found to have different relationships with treatment complexity in the current study. This is consistent with previous research that has identified relationships between particular PD clusters or types and therapeutic outcomes (Burns and Nolen-Hoeksema, 1992; Rossiter, Agras, Telch and Schneider, 1993; Sato, Sakado, Sato and Morikawa, 1994; Viinamaki et al., 2002). It is also of note that the pattern of factors observed in this sample is different from that observed in US studies using the MCMI (Retzlaff et al., 1991; Strack et al., 1992; Craig and Bivens, 1998), which vary themselves in reporting between three and six personality factors. Clearly further studies in UK samples are needed to clarify whether this particular factor solution is stable for this client group.

The authors chose to use a self-report measure of PD for this study, to estimate PD rates across a reasonably large sample. Although there are structured interview measures (e.g. SCID-II; First, Spitzer, Gibbon and Williams, 1997), these are much more time consuming and could not be realistically applied in clinical practice in a non-specialist setting. The present results indicate that MCMI-III provides a useful estimate of PD across the current sample. In addition, this report also suggests that a simple measure of therapy process and outcome did appear to relate to MCMI-III scale scores. It also indicates that specific aspects of PD (namely

an inward looking/emotionally distanced scale score) are associated with significant difficulties in treatment in a heterogeneous clinical sample. In contrast, low therapeutic complexity is only associated with general psychopathology, suggesting that the effects of PD are limited. Further research is needed to support these preliminary findings as well as to provide validation of the TPOQ. In particular, future studies could usefully explore the relationships between the observed Millon scale scores and client and independent raters' views of therapy process and outcome.

This report extends the findings of previous studies that have tended to look within treatment trials at the impact of PD (Van Velzen and Emmelkamp, 1996), rather than at "field effectiveness" (Storsahl, Hayes, Bergan and Romano, 1998), which is the primary concern of practising clinicians. Furthermore, it indicates that assumptions in the National Institute for Mental Health in England document, *Personality Disorder: no longer a diagnosis of exclusion* (2003), might need to be viewed with some caution. For instance, the document proposes that PD treatment will require complex, multidisciplinary input. This may be the case in some instances, but it behoves us as clinical scientists to identify which PDs in combination with which CLSs are likely to require this. Further research within primary care and non-specialist settings is likely to be important in addressing this issue.

References

- Blagys, M. D. and Hilsenroth, M. J.** (2002). Distinctive activities of cognitive-behavioral therapy. A review of the comparative psychotherapy process literature. *Clinical Psychology Review*, 22, 671–706.
- Borum, R. and Grisso, T.** (1995). Psychological test use in criminal forensic evaluation. *Professional Psychology* 26, 465–473.
- Brown, T. A. and Barlow, D. H.** (1992). Comorbidity among anxiety disorders: implications for treatment and DSM-IV. *Journal of Consulting and Clinical Psychology*, 60, 835–844.
- Burns, D. D. and Nolen-Hoeksema, S.** (1992). Therapeutic empathy and recovery from depression in cognitive-behavioral therapy: a structural equation model. *Journal of Consulting and Clinical Psychology*, 60, 441–449.
- Chambless, D. L., Tran, G. Q. and Glass, C. R.** (1997). Predictors of response to cognitive-behavioral group therapy for social phobia. *Journal of Anxiety Disorders*, 11, 221–240.
- Craig, R. J. and Bivens, A.** (1998). Factor structure of the MCMI-III. *Journal of Personality Assessment*, 70, 190–196.
- de Haan, E., van Oppen, P., van Balkom, A. J., Spinhoven, P., Hoogduin, K. A. and Van Dyck, R.** (1997). Prediction of outcome and early vs. late improvement in OCD patients treated with cognitive behaviour therapy and pharmacotherapy. *Acta Psychiatrica Scandinavica*, 96, 354–361.
- DeBattista, C. and Mueller, K.** (2001). Is electroconvulsive therapy effective for the depressed patient with comorbid borderline personality disorder? *Journal of ECT*, 17, 91–98.
- DoH** (2001). *Clinical Psychology Summary Information for 2000-01, England*. London: Department of Health.
- Dreessen, L. and Arntz, A.** (1998). The impact of personality disorders on treatment outcome of anxiety disorders: best-evidence synthesis. *Behaviour Research and Therapy*, 36, 483–504.
- Dreessen, L. and Arntz, A.** (1999). Personality disorders have no excessively negative impact on therapist-rated therapy process in the cognitive and behavioural treatment of Axis I anxiety disorders. *Clinical Psychology and Psychotherapy*, 6, 384–399.
- Dreessen, L., Arntz, A., Lutjels, C. and Sallaerts, S.** (1994). Personality disorders do not influence the results of cognitive behavior therapies for anxiety disorders. *Comprehensive Psychiatry*, 35, 265–274.

- Dressen, L., Hoekstra, R. and Arntz, A.** (1997). Personality disorders do not influence the results of cognitive and behavior therapy for obsessive compulsive disorder. *Journal of Anxiety Disorders*, *11*, 503–521.
- Dubro, A., Wetzler, S. and Khan, M.** (1988). A comparison of three self-report questionnaires for the diagnosis of DSM-III disorders. *Journal of Personality Disorders*, *2*, 185–189.
- Fals-Stewart, W. and Lucente, S.** (1993). An MCMI cluster typology of obsessive-compulsives: a measure of personality characteristics and its relationship to treatment participation, compliance and outcome in behavior therapy. *Journal of Psychiatry Research*, *27*, 139–154.
- First, M. B., Spitzer, R. L., Gibbon, M. and Williams, J. B.** (1997). *Structured Clinical Interview for DSM-IV Personality Disorders, (SCID-II)*. Washington, DC: American Psychiatric Press.
- Howey, L. and Ormrod, J.** (2002). Personality disorder, primary care counselling and therapeutic effectiveness. *Journal of Mental Health*, *11*, 131–139.
- Kuyken, W., Kurzer, N., DeRubeis, R. J., Beck, A. T. and Brown, G. K.** (2001). Response to cognitive therapy in depression: the role of maladaptive beliefs and personality disorders. *Journal of Consulting and Clinical Psychology*, *69*, 560–566.
- Merrill, K. A., Tolbert, V. E. and Wade, W. A.** (2003). Effectiveness of cognitive therapy for depression in a community mental health center: a benchmarking study. *Journal of Consulting and Clinical Psychology*, *71*, 404–409.
- Millon, T. E., Davis, R. and Millon, C.** (1997). *The Millon Multiaxial Clinical Inventory-III*. Minneapolis: Computer Systems Inc.
- Moran, P., Jenkins, R., Tylee, A., Blizard, R. and Mann, A.** (2000). The prevalence of personality disorder among UK primary care attenders. *Acta Psychiatrica Scandinavica*, *102*, 52–57.
- Mulder, R. T.** (2002). Personality pathology and treatment outcome in major depression: a review. *American Journal of Psychiatry*, *159*, 359–371.
- Piersma, H. L.** (1987). The MCMI as a measure of DSM-III Axis II diagnoses: an empirical comparison. *Journal of Clinical Psychology*, *43*, 478–483.
- Piersma, H. L.** (1993). The MCMI as a predictor of DSM-III diagnostic categories: a review of the empirical research. In R. J. Craig (Ed.), *The Millon Multiaxial Clinical Inventory*. Hillsdale, NJ: Lawrence Erlbaum.
- Repko, G. R. and Cooper, R.** (1985). The diagnosis of personality disorder: a comparison of MMPI profile, Million Inventory, and clinical judgment in a Workers' Compensation population. *Journal of Clinical Psychology*, *41*, 867–881.
- Retzlaff, P. D., Lorr, M., Hyer, L. and Ofman, P.** (1991). An MCMI-II item-level component analysis: personality and clinical factors. *Journal of Personality Assessment*, *57*, 323–334.
- Rossiter, E. M., Agras, W. S., Telch, C. F. and Schneider, J. A.** (1993). Cluster B personality disorder characteristics predict outcome in the treatment of bulimia nervosa. *International Journal of Eating Disorders*, *13*, 349–357.
- Safran, J. D. and Muran, J. C.** (2000). *Negotiating the Therapeutic Alliance*. New York: Guilford Press.
- Sato, T., Sakado, K., Sato, S. and Morikawa, T.** (1994). Cluster A personality disorder: a marker of worse treatment outcome of major depression? *Psychiatry Research*, *53*, 153–159.
- Shea, M. T., Widiger, T. A. and Klein, M. H.** (1992). Comorbidity of personality disorders and depression: implications for treatment. *Journal of Consulting and Clinical Psychology*, *60*, 857–868.
- Storsahl, K. D., Hayes, S. C., Bergan, J. and Romano, P.** (1998). Assessing the field effectiveness of Acceptance and Commitment Therapy: an example of the manipulated training research method. *Behavior Therapy*, *29*, 35–64.
- Strack, S., Lorr, M., Campbell, L. and Lamnin, A.** (1992). Personality disorder and clinical syndrome factors of MCMI-II scales. *Journal of Personality Disorder*, *6*, 40–52.
- Tabachnik, B. G. and Fidell, L. S.** (2001). *Using Multivariate Statistics*. Needham Heights, MA: Allyn & Bacon.

- Tarrier, N. and Calam, R.** (2002). New developments in cognitive-behavioural case formulation. Epidemiological, systemic and social context: an integrative approach. *Behavioural and Cognitive Psychotherapy*, 30, 311–328.
- Torgersen, S. and Alnaes, R.** (1990). The relationship between the MCMI personality scales and DSM-III, axis II. *Journal of Personality Assessment*, 55, 698–707.
- Van Velzen, C. J. and Emmelkamp, P. M.** (1996). The assessment of personality disorders: implications for cognitive and behavior therapy. *Behaviour Research and Therapy*, 34, 655–668.
- van Velzen, C. J., Emmelkamp, P. M. and Scholing, A.** (1997). The impact of personality disorders on behavioral treatment outcome for social phobia. *Behaviour Research and Therapy*, 35, 889–900.
- Viinamaki, H., Hintikka, J., Honkalampi, K., Koivumaa-Honkanen, H., Kuisma, S., Antikainen, R., Tanskanen, A. and Lehtonen, J.** (2002). Cluster C personality disorder impedes alleviation of symptoms in major depression. *Journal of Affective Disorders*, 71, 35–41.
- Watkins, C. E., Campbell, V., Neidberding, R. and Hallmark, R.** (1995). Contemporary practices of psychological assessment by clinical psychologists. *Professional Psychology*, 26, 54–60.
- Weissman, M. M.** (1993). The epidemiology of personality disorders. In R. Michels (Ed.), *Psychiatry*. Philadelphia: Lippincott.
- Wetzler, S.** (1990). The Millon Clinical Multiaxial Inventory (MCMI): a review. *Journal of Personality Assessment*, 55, 445–464.
- Wetzler, S. and Dubro, A.** (1990). Diagnosis of personality disorders by the Millon Clinical Multiaxial Inventory. *Journal of Nervous and Mental Disease*, 178, 261–263.

Appendix 1. Therapy process and outcome questionnaire

- I. Select the appropriate option to indicate whether the client attended for a course of treatment.
 - a. Treatment is considered completed or client attended at least 5 times
 - b. Client dropped out of treatment (attended less than 5 times and ended by DNAs)
 - c. No therapy offered
- II. How many sessions did the client attend?
- III. Please indicate whether you think that this client had a personality disorder Yes/No
- IV. If you answered yes to question 3, please indicate which personality disorder(s) were present:
 - a. Schizoid
 - b. Avoidant
 - c. Depressive
 - d. Dependent
 - e. Histrionic
 - f. Narcissistic
 - g. Antisocial
 - h. Sadistic
 - i. Compulsive
 - j. Negativistic
 - k. Masochistic
 - l. Schizotypal

- m. Borderline
- n. Paranoid

If the client attended 5 or more sessions or completed therapy please rate the following

1. Rate the outcome for the targeted problem:
 - a. Worse
 - b. The same
 - c. Slight improvement
 - d. Moderate improvement
 - e. Considerable improvement
2. Rate the working alliance formed with the client (the bond established, agreement on therapy goals, tasks and methods):
 - a. Poor
 - b. Slight
 - c. Moderate
 - d. Good
 - e. Excellent
3. Rate client's motivation to engage in the therapy process (commitment to treatment and readiness to change):
 - a. Poor
 - b. Slight
 - c. Moderate
 - d. Good
 - e. Excellent
4. Rate the psychological mindedness of the client (the ability of the client to understand their own behaviour, to empathize with the feelings of others and to use their insights to change):
 - a. Poor
 - b. Slight
 - c. Moderate
 - d. Good
 - e. Excellent
5. Please consider the formulation made in over the first two sessions. To what extent did this require modification in subsequent sessions?
 - a. Not modified at all
 - b. Modified slightly
 - c. Modified moderately
 - d. Modified greatly
 - e. Modified totally

6. Please consider the therapy plan formed by the end of session two. To what extent was it necessary to revise this therapy plan subsequently?
 - a. Not modified at all
 - b. Modified slightly
 - c. Modified moderately
 - d. Modified greatly
 - e. Modified totally

7. To what extent do you think that execution of the therapy plan was straightforward with this client?
 - a. No more problems than usual
 - b. A few more problems than usual
 - c. Moderately more problems than usual
 - d. Many more problems than usual
 - e. Very many more problems than usual

N.B. Scoring for Items 1-4 is a = 1, b = 2, c = 3, d = 4, e = 5. Scoring for items 5-7 is a = 5, b = 4, c = 3, d = 2, e = 1